

Observations

on

Functional Derangement of the Liver

Aspic quam lument magno ficut Anore Maquis. — Martini.

by

Papier March 22^d
1824

John Andrews

of

OHIO.

Nov^r 1824^s

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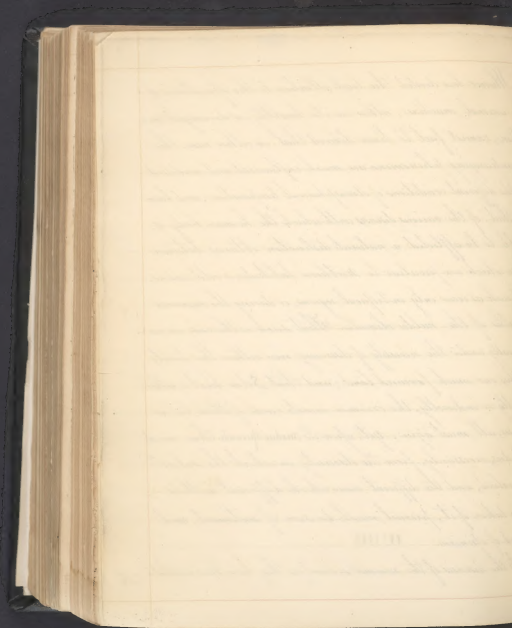
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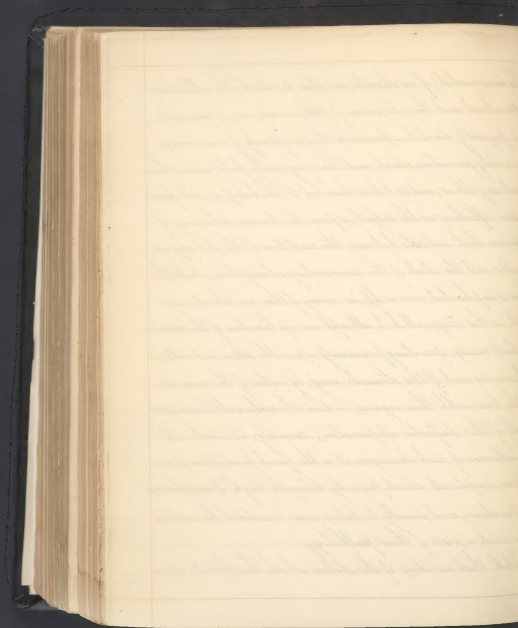
Whoever has devoted the least attention to the operations of the animal machine, either in its healthy, or deranged condition, cannot fail to have observed that, in either case, the accompanying phenomena are much influenced and modified by the different conditions of atmospherical temperature; and hence it is that, of the various diseases with which the human body is liable to be afflicted, a natural distinction obtains between those which are peculiar to northern latitudes, or cold seasons, and such as occur only in tropical regions, or during the summer months of the milder climates. That such is the case we are annually under the necessity of observing, even within the limits of this our much favoured land; and that Solar heat is, either directly or indirectly, the common remote cause of these latter diseases, all must agree; yet, upon its *modus operandi* there must, and does, necessarily, form the obscurity in which the subject is involved, and the different views which different authors have taken of it, occasion much division of sentiment, and discord of opinion.

As the diseases of the summer season [as they have been emphatically



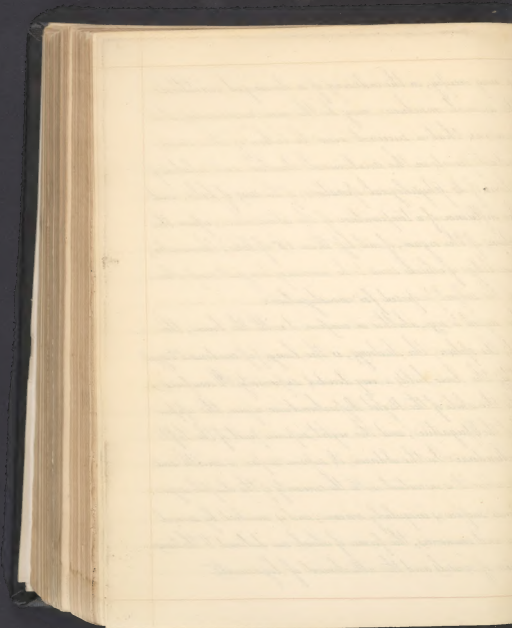
ally determined) of our climate, are those to which the attention of Mankind and the interference of Physicians are, of necessity, more frequently directed—because of their uniformity of occurrence, their widely pervading extent, and their frequently fatal issue—than almost any others; and as I have been led to the belief, as well from my own reflections on the subject, as from the known intimacy of connexion that subsists between the condition of the biliary apparatus and the state of the surrounding atmosphere, that the Liver is implicated, more or less, in many of these complaints, my object, in this essay, will be to attempt an explanation of the manner in which causes, operating primarily upon the skin and internal mucous coat of the stomach, may, by virtue of the connexion of the liver with these organs, induce Functional Derangement of the hepatic apparatus; secondly, to point out the influence of such derangement in the final production of some of those complaints which properly belong to high atmospheric temperatures; and finally, to deduce some practical directions from such a view of their pathology.

But, that our ideas of the action, which the hepatic apparatus

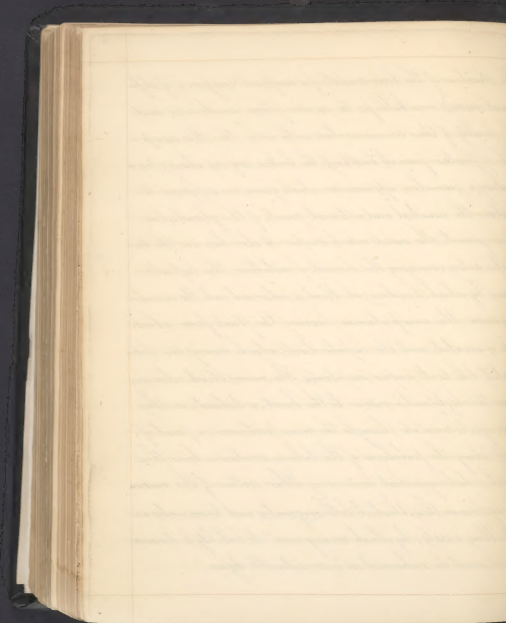


may occupy, in the inducing of a deranged condition
of the animal machine, may be the more conspicuous, it is
incumbent that a succinct view be taken of the more
important points in the anatomical structure and relations of
the liver; of its physiological operations; of the uses of bile; and
of the influence of a temperature of the atmosphere, above the
function of the organ, of not less than 85° of Fahrenheit's thermometer;
a knowledge of which seems to be necessary to a just comprehen-
sion of the subject proposed for investigation.

In regard to size, whether we compare it with the brain, the
heart, the spleen, the kidneys, or the lungs [if condensed to equal
density] the liver holds a very decided superiority. It occupies
nearly the whole of the Right Hypochondriac region; the upper
part of the Epigastric, and the right superior part of the Left
Hypochondriac. In the abdomen, its superior surface is smooth and
convex, where it is in contact with the concavity of the diaphragm;
its inferior surface is irregularly concave, and is marked by several
furrows and eminences, the former of which are destined to the trans-
mission of vessels and the attachment of ligaments.



The structure of the liver consists of a compact congeries of different vessels, remarkable for the number of their anastomoses and the facility of their communication with each other. It is susceptible of fracture from its bulkiness, the broken surfaces always presenting a granulous appearance, which grains are supposed to contain the essential and ultimate principle of the glandular arrangement. The vessels which compose its structure are, the hepatic artery, conveying the elements of nutrition; the hepatic vein, by which its oxygenized blood is returned into the ascending aorta; the vena portarum, bearing the fluid from which bile is secreted; and the hepatic ducts, which convey the elaborated bile to its proper receptacles. The venous blood, returning from the chylifera, viscera to the heart, is destined, in this passage, to circulate through the vena portarum, a part of it affording the nutriment of the biliary secretion—hence this vessel is distinguished from every other section of the vascular system in this, that it both originates and terminates in a capillary vessel; by which arrangement its liability to derangement must be enhanced in a considerable degree.



The hepatic ducts, ductus choledeus, and gall bladder are lined by a continuation of the mucous or lining, tissue of the alimentary canal. The mass of the liver is derived from the splanchnic plexus of the splanchnic nerves; they surround the hepatic artery and vena portarum, and accompany them in their ramifications throughout the liver; being inclosed in Wilson's capsule. Like all the other abdominal viscera, the kidneys also are clothed, the liver receives a complete investment from the peritoneum, the pericapsule, which is long as ligaments, keeps the vena cava, near the vena cava, vena to maintain it pretty steadily in its relative position with the other abdominal contents.

From the earliest dawn of Physiological science down to the present day, disorganised and unconnected opinions were prevailed among the cultivators of that science, relative to the precise functions of the liver. The one popular, but now exploded dream of older times, assigning to it the highly important performance of elaborating blood from the fluids of the body, is no longer worthy our attention. The great Haller says, "non sufficit" that there is no bile required in the food, thus being

* Uncommon Dictionary arch. Bile

no food received; when, again, it is that the liver is small ⁱⁿ the fetus and not small like the lungs, which are destined to an operation in the economy after birth. I cannot but suspect that it has some other uses in the fetus than the secretion of bile. Still, however, entering into the ambiguity and obscurity, from which we should be careful to escape, little benefited and left instructed, we may safely conclude, since Nature cannot be justly accused of supererogation in any part of the human body, that the importance of this organ in the animal machine, is fully commensurate with its magnitude. Certainly, the secretion of bile is the most important and it answers.

Gallbladder is of a yellow colour external with green, / a plastic consistence like thin oil, with an odour somewhat like that of musk, and a very bitter taste. It is well as is-
sued to be possessed of antiputrescent qualities, particularly, which must be of the highest importance, particularly in the lower portions of the alimentary canal. An other remarkable and very singular property of the biliary secretion is, that it, arising, an important part, in conjunction with that of the pancreas, in

*Abbeard Memo. Col. Bird's Study of Medicine Vol. I Physiological Section 6
Functions of the Digestive Functions Page 13.*

completing the process of chylification, in animalizing that food,
and furthering what may be properly enough termed the duode-
cimal digestion. It also imparts the yellow colour to the stools,
close to the faeces. But the great and most immediate ac-
knowledgeed source, this important secretion consists, in its
stimulating the intestines to a due performance of their peristaltic
action — a motion, by which they are enabled to propel their
contents continually forward, often in opposition to the attraction
of gravitation, thus exposing the ingesta to the action
of lymphatics, and finally, expelling from the canal what
is now become foreign, and, if retained, would soon be irritating
matter. Yet, as if Nature would bear to no law, cases have occurred
in which the peristaltic action has been duly continued, and ap-
pear stools produced without any intermission of bile, and even
where there has been no gall bladder, no any duct leading
from the liver to the duodenum. And from this fact, as well
as from various others, an indubitable phy. dogist conceives
the offices of bile to be that of converting mucus or the
gross matter of the chyle, when conveyed into the colon, into

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lot, which is absorbed from this and diffused throughout the system to promote its growth. It is contained by a late author, that the process of forming fat in the small intestines, or mesenteric, affords the most satisfactory explanation of the nourishment yielded by chylus; a fact which had long been noticed, but which he thinks cannot be otherwise satisfactorily accounted for.

When we proceed to the consideration of the effects of hyperaesthesia upon the functions of the liver, it is proper that we should mark out, as accurately as the limits of this essay will permit, the nature of the sympathy maintained that exists between that organ and the rest of the body, as well as between it and the alimentary canal. The two grand highroads of disease into the system.

In the preceding short sketch of the anatomical relations and structure of the liver, it was remarked that the urinary ducts and gall bladder are lined by an extension of the lining membrane of the alimentary canal: consequently, by virtue of this relationship, which is thus mentioned, the connection between them



is direct, and an impression or irritation, accord when the one, is communicated to the other, of this organ. This connection, is perfectly intelligible, and requires no further elucidation. But by the nature of the connection between the skin and the vis, and of the relation in which these functions stand toward each other, we have the direct cause, yet a cannot view of their result is equally important to the end in view. Since upon this all depend the structure of the phenomena in the surface of the body, resulting from the influence, exerted upon the cutaneous surface.

And here, at the very threshold of our enquiry, we are met with the unequivocal assertion of the great and usually accurate Physiologist, "that a cold atmosphere confines the functions of the skin, and occasions internal exhalation to be more abundant" and that, "in warm seasons and warm climates, the skin is more sanguine, and the internal exhalation is diminished." Again, Mr. Brouncker, whose opinions are always to be treated with the greatest and wisest, says, "a warm climate, it is altogether necessary to secretion," but, and unless it were acid, then does not



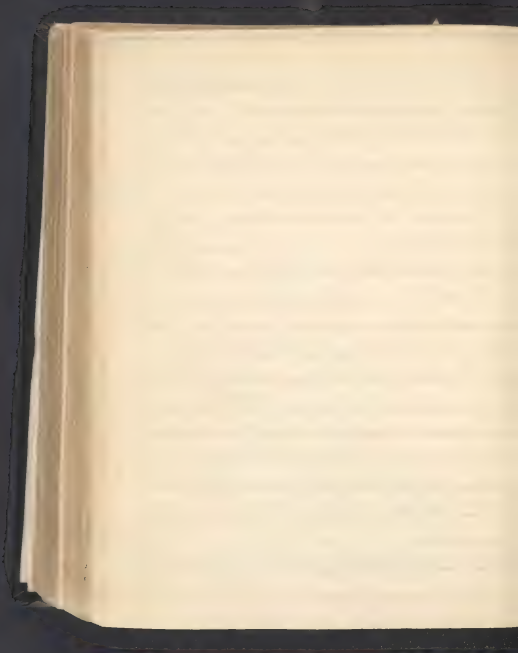
appear to be the slightest foundation for this assertion. The note
 of him "content with weight of authority," we must reluctantly
 conclude, that his notion of the connection between the skin
 and liver is such as to, under those secondary occasions of con-
 sideration; that as the functions of the skin are invigorated, in these
 states, those of the liver are proportionally weakened, by the
 same general cause. That such opinions have been received and
 are yet cherished by many who appear to be "jurati in rebus
 negativis," I am aware; that such is the case as regards
 some internal secretions, is certainly true; but that it is not
 a relation to the liver; I am persuaded is susceptible of
 fair and easy demonstration.

"I have remarked," says the celebrated Johnson, who has
 completely elucidated this point, "that when we first arrive
 in Sweden the hepatic, the perspirative and biliary secretion
 are both increased, and that as we become habituated to the
 climate, they both decrease, *pro passu*. We, when the occasion
 of warm weather [I speak with reference to the climate of the
 U. S.] in the month of June, July, does not experience the



and tongue, the bitterish taste, the partial nausea, the loathing
of animal food and oily substances, indicative of an increased
action of the liver? And vice, these things being equal, after a
continuance of such a degree that for some length of time,
has not subsided, the partial and insufficient evacuations
from the bowels, with other symptoms of a less draining biliary
action, which more to be accompanied by a dry and sticky
skin, with every other evidence of diminished insensibility?
In all those who labour under chronic affections of the liver,
a want of color is so conspicuous a symptom, every one
must have also observed a correspondent want of action in
the skin. In cholelitis, where the absence of the arterial pulse
has no inconsiderable share in bringing about the fatal necro-
malations assigned as the cause of the disease, Dr. Hamilton
says, "the perspiration seems to be checked." The different pas-
sions and emotions of the mind, which so variously influence
the functions of the skin, are known to produce correspondent
effects upon the liver.

Whether then it be, by that mysterious law of sympathy,



which it is so easily said. "causa latet: vis est notissima": or rather
to be assumed as an axiom in Medicine. that incidental al-
most philosophical heat is followed by an excremental: in a uter-
ine system: a uulva. in a fruit, genus candelae in con-
tact with the quæ and conus ignis: et sic quæ modo.
I think, from the preceding considerations, to which many of
similar pursuit and daily observation might be supposed.
the following inference may be deemed legitimate: That between
the cutaneous surface and biliary apparatus, there is a consensual
action - namely, that by directing our operations towards the
one, we can distinctly influence the functions of the other. I now
propose 2^d that the nature of this connexion is such, that an al-
tered cause operates to produce an increased action in the one, pro-
duces also an increased action in the other, of these organs; and,
3^d that the converse of this is also true.

Having these views before us, we may be somewhat aided
in our attempt to trace, step by step, the humors and secretions
of the liver, of high almost insurmountable evidence upon the
functions of the liver.



Heat, applied either to a part, or the whole of the human body, is productive of a directly stimulating effect. The first effect of warm weather on the functions of the skin is usually acknowledged to be an increase of stimulation. But, from what has already been said, it follows, that a similar effect will be produced on the secretory functions of the liver, stomach, &c. in the capricious and dark coloured jays, the yellowish fur about the root of the tongue, the labial, lingual & the adnata. The deep coloured warm water, &c. stimulation, & passing etc. Such a condition may continue for; perhaps a short, perhaps a considerable duration of time. Thus it has long been the degree of heat to which the body is now exposed, compared with that to which it has been recently habituated; the size of the circulation; and particularly, upon the habits, occupation and mode of life, pursued by the subject, as well as other incidental circumstances. As the cause continued, however, and the indirect effect of a preternatural excitement, or hyperæmia of the organs, necessarily takes place, during the continuance of which, its function is imperfectly performed. We now have



phenomena quite the reverse of the preceding; a deficiency both
of heat and perspiration corresponding with this burning state;
the skin is pale, collapsed and arid; the appetite is
vehemently craving, or totally extinguished; the fecal evacuations
scarcely, infrequent and undecayed; there is rest, not a slumber
from the slightest exertion, whilst the mind, partaking in
the torpor of the body, engages in study with reluctance.
This useful period, at first but of short continuance, and perhaps
not very distinctly characterized, as gradually prolonged in
this duration, would finally a total suspension of action result,
and a complete subsidence of the living system take place.
The warming function of the liver being thus impeded, whilst
the hepatic veins afford an inadequate outlet to all the blood
which is brought to the organ, congestion of the portal system,
to a greater or less degree is the necessary result. This is consistent
not only with tension and expansion, but also with a redness. Thus,
when the German doctor, in the *De morbo*, relates a formula of his
others practice, the stomach, for a time, accommodates itself
to its additional duty; sooner or later, however, as if destined to

*
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reform but a certain quantity of duty, it manifests an en-
 ability to the excessive or pathological stimulus, disorders
 of exertion are gradually restricted, until it finally admits
 accommodations, without an apparent effort to dispose of them.

Observation, however, proves that without the revivification of
 the cause, atmospheric 'sars', acting upon a healthy con-
 dition, is rarely followed by a so disastrous consequence.

Dr. Humboldt remarks that, "the burning fever of Venezuela
 the coast of Vera, and the plains of Caracas, prove that ex-
 cessive heat, alone, is not unwholesome to human health."

Since it is that, in the insalubrious climate of the U. S. a con-
 gestive state of the venae portales is usually brought about
 by the influence of the cause, then to find some excessive
 action, viz the application of cold, redump, as has been noted,
 to the surface of the body. Thus, says Dr. Richd, "cutaneous ex-
 halation is increased by the action of caloric on the body, the
 skin being more expanded and distended, and thus exposed
 to a less of blood to it. This exhalation of the skin and its mo-
 tility is influenced by external agents, and its influence in turn

The ship work on S. Greenland

First Temp. vol 1st: Galdwell's.

All other organs. ³Especially the same holds in regard to the liver.
Hansen, when it is placed in a condition, by previous vacuity =
want, "manifest to be influenced by external agents," a very
slight vicissitude in the temperature of the atmosphere, or
exposure to a moderate degree of cold in any way, immediately,
assisted by the conjoint operation of damp, easily induces a torpor
of the extreme vessels, both of the surface and of the capillary
system, by which both their actions are arrested, and engorge-
ment of the liver ensues.

In this we have an elucidation of the apparent paradox
of Dr. Mead, that cold is the cause of almost all the dis-
eases in hot climates to which climate alone is necessary. The
observation of Vallin, "that between hot climates, and in the
hot seasons of mild climates, occasional falls of rain are particu-
larly followed by an epidemic cholera," is, in this, well found
to be based upon correct and established principles, which,
what is standing, was opposed to all principle agreeably with
his view of the pathology of that disease.

Did it then happen, that instead of the surface of the body,

* Related in Beebe's Medical Jurisprudence

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the pungent coat of the stomach, increases its first morbid
impression which results in the production of functional
disorder of the liver. When an article is taken into the
stomach, the effect of which is to produce an impaired
stimulus there, this is extended, by continuity of structure,
to the liver also; and the first effect will be an increased
and somewhat excited biliary secretion, but, as a consequence
of this morbid excitement, typhus ensues, the hepatic function
is suspended, and a congestion takes place of the portal circulation
immediately, usually. Thus it is that, ascitic fluid and other acid
regurgitates; in one case, an excessive dose of tartar emetic, and other
irritating substances have proved the exciting cause, in sporadic
cases of cholera morbus. Yet it is not to be concealed, that, in
many such cases, the increased secretion, resulting from the
humane irritation, may produce disorder of the intestine
sufficient to demand our attention, but, in my opinion,
the secondary effects are always, in still more serious cases.

It might here be added that, in all cases, the causes
which have already been considered may be much increased

the
lanceately formed "Anthesis of the steeled dist." is that of "Telamond secretion". "occasional"
solid excreted" "is moderate in nature" &c.

producing their ultimate effects, when a predisposition to dis-
ordered action has been produced in the system, by an indirect
cause, brought on by stimulating drinks, improper ex-
ercise, in food, intense study and other causes whose operation
I do not here intend to consider.

Congestion of the liver, by whatever means brought on,
like that of the lungs or of the brain, is a condition incompatible
with the healthy operations of the organ itself, but with
the healthy condition of the general system. But as it is a law in
the vital operations, as fixed as that of gravitation is in the phys-
ical, that such a condition cannot exist long without some effort
on the part of Nature to effect its removal, we may confidently
expect that she will attempt this, in some or other manner.

When the congestion has been suddenly induced,
so that the function of the organ is not greatly impaired,
and, at the same time, or it is a truly considerable extent the
system will react and attempt to relieve the engorged vessels,
by instituting a hasty, vigorous, and impetuous secretion, &c.
which is poured forth into the circulation; whence a part may



regurgitated and be rejected from the stomach, a tract turned
inwards and be expelled with the contents of the bowels. The
appearance of bile forms an important link in a chain of sym-
ptoms which nature has instituted, as salutary in themselves, but
which has been attributed the name, *Hæmorrhæa Menter*.

This disease therefore, as it almost always terminates itself, we must
necessarily view, contrary to the generally received opinion, as
naturally divided into two distinct stages: each presenting
symptoms peculiar to itself, and each requiring treatment
inapplicable to the other. In the first stage, there is general a
tingement of the liver, and a deficient flow of blood in the
arteries, giving rise when severe, to that condition of the system
now in fact termed a *Cholera*. There is now an irregular
action in the general circulation, and an imperfect supply of
blood to the brain. The countenance is shrunk and livid.
In vision dim, the pulse, weak and irregular. The perspiration
is profuse, profuse. The extremities cold or assume a red
appearance, and covered with large effluvia, spots of even, gross
effluvia, distressing anæmia, with nausea and vomiting blood.

* *Mort de Chien* death of a dog. The appearance of bile is entirely absent. *Contis.*

† *Johnson* in his *Diseases of Tropical Climates.*



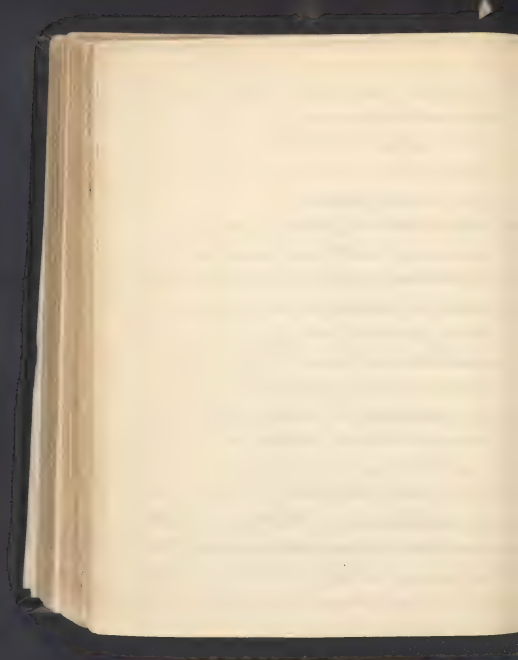
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A large part is now but to turn in, and some nature will be
seen when Nature, although she may frequently be
not efficient, does not always select the most convenient course
to repair nature, as we see, so that the safety of the vessel
must be even decisive: now, this can do you even danger
as and fatal: this, in the head of Hamorrhoids from internal
cause. blood is then used upon internal and vital organs: in
the place of a mild, proper, and necessary degree of inflammation
when suppuration and gangrene has often been contented
with. The whole found upon and over us left, does not do it.

But to return from that, it is found, in useful digestion, it
sometimes happens, when the secondary vessels are incompetent to the
task of forming even imperfect bile, when inertia is the accumulation
of blood has been more gradual, and the functional disarrangement
greater: whilst the congestive state is extended to those organs whose
motility is associated with that of the liver. that also may be
added to the organ by the vessels from it, through the portal
vein, a portion of blood, which, by passing along the ductus
communis, will descend into the duodenum. When the vessels, and

*
— ejus tamen ventriculus et intestina post mortem, nullum morbi indicium denotant,
quod duc expertissimi ac sagacissimi anatomici possent detegere. Heberden.

and thus discharged, passes through the bowels, it constitutes
Melana, and when there is an obstruction to it does not throw
the bowels from a constipated state of them, as some have
supposed, but into the stomach producing the complaint known
by the name of *Idiopathic Hematemesis*.

The intelligent G. R. Hamilton, of Edinburgh, in his work on
the practice of medicine, is said to have thrown out the first hint leading
to the cause of these disorders, yet it is his practice only which mis-
directed, and not his explanation of the cause and remedy of
the disease. For, independently of the manifest interest which
that more consideration should give us to a rupture of the vessels
of the stomach, as an exudation of blood from them, from any
cause, whether we trace it to the anatomy or physiology of
the stomach, and of the authority of the moderns, that a rupture
of blood vessels of the stomach is proved, could be found in a
patient who had laboured occasionally, or several years, under
vomiting of blood; the experience of Abernethy, confirmed by that
of Sydenham, goes to prove, that a constitution is too hot, that the
bowels, which is assumed as the cause of *Hematemesis*, is a *pyrexia*, a



regular or necessary attendant upon it; and cases of long and violent
constipation are daily falling under our observation without
any allusion to it."

"It can require no convoluted reasoning to the mental faculties
to perceive that functional derangement of the liver, having its seat
principally in a congested state, can continue not for a short time
without giving rise to many intestinal disorders, but to indicate
any more a passing allusion to the secret diseases that may be pro-
duced by ismaltatic excretion from the disordered condition of the
liver, would be to exceed the scope and object of this exegesis, since
it has become, at an early period, almost the universal opinion, that
the liver is the seat of the secretions of the bile, and that the
secretion of the bile is the source of the secretions of the liver.
But from the considerations which have been noticed, especially
above, I think the inference may be drawn; that Chelous morbus,
Jaundice, and emphysema, Hamatemesia, a slowly distinct disease, as in
children, dependent upon a common condition of the secretory vessels of the
liver, that the liver better be but modifications of the same affections, than
distinctly in the living an excretion of blood from the common vessels of the
liver, particularly in the case of the secretory vessels of the liver, which form a
prominent symptom in this last complaint."



TREATMENT.

Although we are no longer taught to enter upon the treatment of disease under the influence of a delay in the decisions; a "vis medicatrix naturae", yet, in the case under consideration it is simpler that we should pay some attention to the means then resorted to by nature, and by which we have seen what is not ungenerally effected; in as much as we may thus gather useful instruction both to the nature and treatment of the disease, and as it, then, is the more successfully directed, as it the more secretly, proceeds, until the indications pointed out by Nature. In the disease, the treatment of which we are about to consider, and which consists in an interruption of the secretory function of the liver; and a consequent congestion of the vena portarum; we have seen that nature's first effort is, to re-establish the secretory condition of the organ, by removing the last portions of starches: that when this is unequal to the task, a temporary, and sometimes a permanent, suppuration is set on foot, and the system generally, and the liver in particular, by the action of such means bleed from the congested state, and that thus the removal of the congested state, &c.



essels often contribute to remove the localised action of the
poison. The indications of treatment, then, are plainly pointed
out. I. To remove the seething action of the liver, and
leave the congested state of its vessels II. To remove every
localised action of these organs, whose connexion with the
liver may cause them to be enlarged.

When what has already been said, is not sufficient,
but to fulfil the first indication, such remedies never must
be employed as will stimulate the local and increase the
action. It is better to a more powerful and vigorous action. Every
old experience has proved that, if the circumstances of the me-
dian disease, be a non-venereal nature, more violent
may be necessary, directed to the organ. Thus, the
mercurial preparation of mercury, and of this the trichloride
the one which directs in such a manner and most to be noticed.
When a patient, who suffers with a diseased condition of the biliary
function, takes a small dose, continues at bed time, it commonly
produces that, instead of the subsiding of former weight, the
disease more calmly and gently than usual, and sometimes

8
Hij en Marasmus

morning under a conviction that he can not "cancel"
the action of the medicine in the liver. He would
then should be small, and given without the addition of any
negative action, in order that it may remain in the
stomach. Still is the most convenient form for its adminis-
tration in these minute doses, and the softening preparation
would be suited the generality of cases.

1/2 gr. Calomel gr. IV.

Rad. Brum. q. s. M. full. Xij.

In ordinary cases, one of these pills during the bowels are loose
is found sufficient; but when the symptoms are more
"aggravated," it agrees, "abolition may rather be said to be."
But as it is, in many cases, necessary to get the cathartic
out in order to see the benefit of the evacuant and to avoid
those that will be predicted, the cathartic should be given, to sit-
uated by some laxative medicine. For the best purpose is
the "Sulphate of Soda" or magnesia, or which is not
at all, even the "Sulphate of Soda" is a regulated use of the cathartic, and
it is, in some instances, found to be most successful.



now, that by a visit to Bristol he has given the same to the
public, or the latter may be taken in going to Bristol next week, and the
same in coming in the morning, that is, three years. The same
operation of means, toward the other two, might be substituted for
the preceding, and taken in the same manner, was never necessary
in. This practice should be pursued in order to secure a constant
supply of blood, and without disturbance, for the same will be
the case, as we are assured that this is the case, the time is spent
and duty performed. During the first outbreak, that the secretion of
the blood was increased, well to the contrary, some persons, and
in the action of the blood, attended to a violent and dangerous
disturbance, which speaks the recurring frequently, and the same
regulation.

But that is not the only means by which the laws may be
 acted upon in the same condition, to a successful and agreeable
 when I make, safely and pleasantly, produce the same good. Indeed,
 but the secondary function of laws is, to make the law, to make
 justice. This has been some evidence of the same law in the same
 which you, as I stand your law, as I stand your law, as I stand your law.

* 1845 (Chalman) in close contact with a highly intelligent
1. Chambliss "where the bulls could hardly to sell."

as much as must be deduced from this with respect, and have
be now considered, and recommended, in the treatment of
hemiparesis, and palsy, by the most distinguished of modern
physicians. Quotations directly on the law, by their authorities
may stand, I immediately to it, and inductive, there is to be
seen. The admissible intellect and double vision, were constructed
the sensation of something as well suited mechanically to the whole
of the system, thus even the sensa posticum, to the brain matter,
is incidental, often felt is always conscious to the action of
nature, and this is doubt, is so recent, is so recent, the results
of the sensation. As an act to be deduced from this evidence
not by the as some fallings of, and this is the same
it may in some cases seem to contradict its propriety.
Inevitably is that which is usually considered, in the mind
as a form of XX point, though a number of them, it is
not so much always, more, perhaps, when there is an increase
of the stimulus to the sensation, in brain. The whole should
usually be followed by some action that will change the condi-
tion of the mind, and related events, which always are

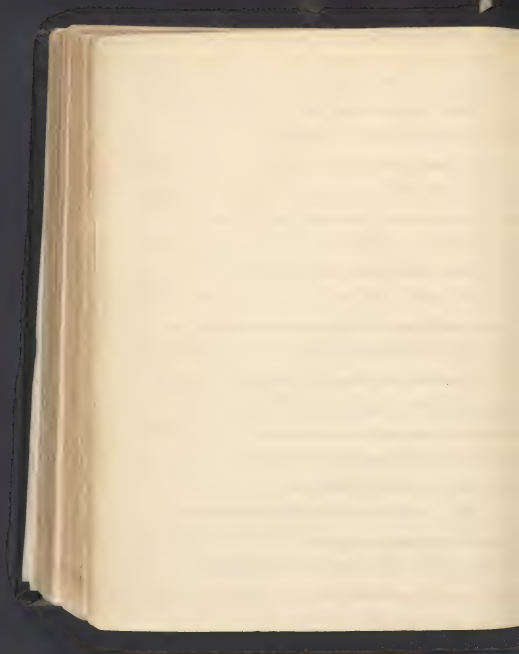


found, for want of the natural stimulus to the heart. The action
however, can also be excited not merely by removing sorted masses
from the circulation, but, by removing, thus, the cause,
inducing a more constant motion, in the circulation, which
has to accumulate, and become violent. In the first
stage, will be excited, current, and the blood circulation
ceased. From this, it is not and, perhaps, in the first section
X, of the system, it is not the latter, will be in a
more or less case.

It has already been remarked, and as due attention is shown,
it is not always left to the skill of the physician to remove the
natural condition of the blood apparatus, called, then, to a certain
extent, the spontaneous, and a water had been established. The
next, require should be the best to be observed — whether the various
and, more, to the end, is whether the system, circumstances, will
be even, as by the presence, in the system, the most heart,
must sink beneath the burden. If the, power, should appear to be
the case — and which, may eventually, be inferred from a judgment, in the
a gradual subsidence of the system, symptoms, especially the mind, in
sudden



preceded by sleep, or a gentle moisture of the surface, with more or
less other than to aid and assist their friendly efforts, the in-
dustry, should the evacuations upwards and downwards be ac-
crued to great inclination of strength, low, cold, or inter-
mitting heat; cold clammy sweats; a hurried and short respiration.
The indication, the general tendency of the surface, then a
prompt, decisive and energetic course is to be pursued on the part
of the Physician. To allay commotion, and support the decaying
powers of the system in the incubation, now generated, stimuli
in various degrees, since the days of Sydenham, have been abun-
dantly resorted to. His external application to the affected area
in the form of embrocation, is also useful. To accomplish in colder
the stronger diffusible stimuli are frequently required. At this
 juncture, I have seen brandy taken in very considerable quantities,
 whilst the most active evacuations and stimulations were adminis-
 tered: often too with the happiest result, even where the most
 languid: here would scarce have sustained an expectation of
 success. To the individual remedies here hinted at, an extensive range
 might be subjoined - this, however, I deem superfluous.



to fulfil the second grand indication, viz. "to correct any disor-
der of those organs, whose connexion with the liver may cause
them to be deranged," in its most extensive application, would
require considerable variety of treatment; but as it was, not my
design, as before intimated, to enter upon an arena of such exten-
sive inquiry, I shall only attempt to point out what is necessary
for the relief of the stomach, and intestines, whose connexion with
the liver is so intimate, and whose diseases are so reciprocal.

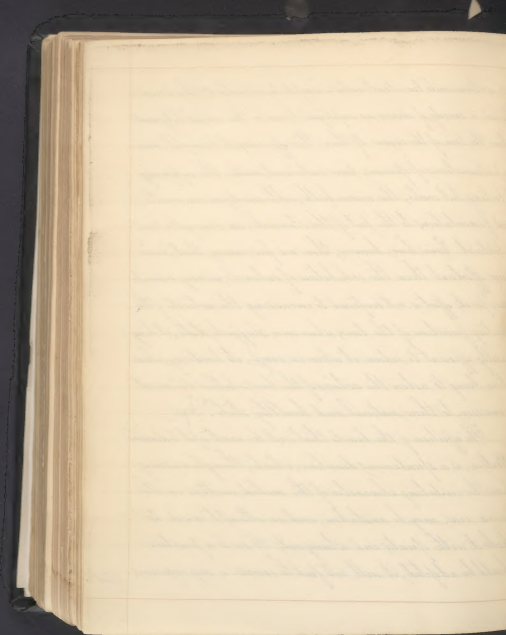
We have already had occasion to allude to the debility, and
sometimes dangerous effects, produced by the accumulation of
acid bile into the stomach; and from the intimate connexion;
that subsists between it and every other part of the animal econ-
omy, it becomes necessary to attend particularly to the condition
of this central organ, until its compound actions be restored, and then
to return to the original seat of the disease. We are here to con-
sider the liverizing salts, calculated, in medical language, to be
not occasional symptoms. Our first efforts, under such circumstances,
should tend to "promote the solution of the irritating cause." For
the various, different, frequent, various, kinds are recommended —

such



such as chamomile tea—least water—simple tepid water &c. If this accom-
 plished, a variety of means are employed to calm the irritability, and
 relieve the tone of the organ. Of these, the effervescent draught, vari-
 ous preparations of opium, lime water and milk, the sipping
 of boiling hot water, the warm bath, with anodyne enemata
 and fermentations to the part of the stomach, are among the most
 important. Even here, however, there are few means that prove
 more effectual than the exhibition of calomel; in very minute
 doses; for its effect is, not confined to increasing the activity of the
 secretory function of the liver, when in a sluggish state, it being
 equally efficient to reduce it when in excess; its tendency, when
 acting, being to restore the action of the liver, whether deficient
 or excessive, to their natural and healthy state. [Aque.]

The affection of the bowels that will be most apt to demand
 attention, is a spontaneous diarrhoea, which, though arising
 from the irritating character of the morbid matter in the
 prima via, may be mistaken, and an attempt made to
 check it with opiates and astringents. If such a practice
 should be adopted, it will not fail to exercise a very injurious effect.



effect upon the system, and prove entirely unsuccessful in the radical removal of the complaint. There is here as much need for purgative medicines as in actual constipation; and the stools are found to be diminished in frequency, and quantity, instead of being increased, by the operation of these medicines. By restoring, at the same time, the healthy secretion of bile, the ingesta are thereby more completely assimilated, and the sacculent part aided in its descent; so that the morbid stimulant, which produced the diarrhoea, no longer acts upon the mucous lining of the intestines, and the diarrhoea itself is consequently removed.

On recovery, the patient should be cautious to guard against all irregularities in diet, avoiding such articles as readily become acrid, and using such only as are light and nutritious. He should also guard against all sudden transitions of temperature, be regular in his habits, prudent in his exercise, and temperate in his enjoyments; which constitute the chief secrets in hygiene.

